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VOLUME 4



NUMBER 4

April, 1949

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THE AMERICAN PSYCHOLOGIST

The Professional Journal of the American Psychological Association, Inc.

Volume 4

April, 1949

Number 4

In this Issue

Psychology at the Special Devices Center, Office of Naval Research. LEONARD C. MEAD.....	97
A Psychotherapeutic Method of Teaching Psychology. VOLNEY FAW.....	104
Field Work in Mental Hospitals for Undergraduates. NELSON G. HANAWALT.....	110
Comment.....	112
The New Psychological Monographs: General and Applied. HERBERT S. CONRAD	
Committee on Public Service Standards in Social Psychological Research. RICHARD S. CRUTCHFIELD	
Instinct: Confusion on the Mainland Also. ALLEN J. GOTTFNEID	
Cellophane for One-Way Vision. DONALD L. GRUMMON	
Frank A. Beach (portrait).....	115
Across the Secretary's Desk.....	116
Letter to President Truman Concerning Loyalty	
Investigations. APA BOARD OF DIRECTORS	
Advertising in APA Journals. HELEN M. WOLFE	
Psychological Notes and News.....	118
Convention Calendar.....	124

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THE AMERICAN PSYCHOLOGIST is published monthly by the American Psychological Association, Inc., at Mount Royal and Guilford Avenues, Baltimore 2, Maryland. Subscription: \$7.00, single copy \$.75. Communications on business matters should be addressed to Publishers, The American Psychologist, Mount Royal and Guilford Avenues, Baltimore 2, Maryland, or the American Psychological Association, Inc., 1515 Massachusetts Ave., N.W., Washington 5, D. C. Address communications on editorial matters to 1515 Massachusetts Ave., N.W., Washington 5, D. C.

Entered as second-class matter January 9th, 1946 at the Post Office at Baltimore, Md., under the Act of March 3rd, 1879. Acceptance for mailing at special rate of postage provided for in section 538, Act of February 25, 1925, authorized August 6, 1947.

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PSYCHOLOGY AT THE SPECIAL DEVICES CENTER, OFFICE OF NAVAL RESEARCH¹

LEONARD C. MEAD²

Tufts College

INTRODUCTION

DURING World War II the Special Devices Center concentrated a major portion of its efforts on the creation of synthetic training devices. By the ingenious application of electronics, optics, hydraulics, mechanics and other phases of the engineering sciences, a great number of trainers were created which simulated such diverse tasks as instrument flying, airborne flexible gunnery, celestial navigation, and submarine attacks on simulated surface vessels. In the latter phases of the war it became apparent, however, that engineering "know-how" did not, in all instances, solve the problem of useful (valid) synthetic trainer development. It became recognized that the problem of task simulation was as much a psychological problem as an engineering challenge. Thus there was established a Utilization Section, headed by a psychologist, whose function it was to work with the engineers so that the devices would have psychological reliability, validity, objective scoring, adjustable task difficulty, and other features which the psychologist has so long recommended as necessary in a training instrument.

After establishment of the Office of Naval Research by act of Congress (Public Law 588) on 1 August 1946, the mission of the Special Devices Center was broadened to cover such research and development as to integrate the performance of modern machines, weapons, and techniques with the capabilities and limitations of their naval operators. The Utilization Section became the Human Engineering Branch and the functions of the Center as a whole now include,

in addition to synthetic trainer development, such activities as the preparation of teaching aids, human engineering (to be elaborated below), the development of research tools for the physical and biological sciences, tactical evaluation by means of advanced digital computers, and technical guidance and assistance to the naval service with respect to production, distribution, maintenance, and assessment of trainers and training methods.

The Special Devices Center is only one of several divisions within the Office of Naval Research which sponsors psychological research. The Research Group of ONR in Washington, D. C. has a Psychology Branch, directed by Dr. J. W. Macmillan, and a Psychophysiology Branch, directed by Dr. H. A. Imus. The Psychology Section at the ONR Naval Research Laboratory is headed by Dr. Franklin V. Taylor who has recently described his functions and activities (17). Outside of the Office of Naval Research, the Navy Department has psychologists employed in the Bureau of Naval Personnel, the Bureau of Ordnance and the Bureau of Medicine and Surgery.³ The activities of the Office of Naval Research are probably of greatest interest to academic psychologists because it is this agency which has set up a broad and comprehensive program of psychological research by means of government contracts with civilian colleges and universities.

PROGRAM

The contract-supported psychological research program of the Special Devices Center is classified into five major areas, as follows: 1) device development and psychological evaluation, 2) studies of rapid mass learning media and techniques, 3) research and application to naval training problems, 4) research on and synthesis of human engineering data, and 5) systems studies. In each of these five

³ Of passing interest is the fact that there is an appreciable number of unfilled billets, both civil service and military, for psychologists in most of these agencies.

¹ This article is one of a series (4, 9, 17) written at the request of the editor. Like the previous articles, it illustrates how applied experimental psychology (human engineering) is continuing to be sponsored by the armed services in the post-war period.—DAEL WOLFE.

² This article was written while the author was Head of the Human Engineering Branch of the Special Devices Center. The opinions or assertions contained herein are the private ones of the writer and are not to be construed as official or reflecting the views of the Navy Department or naval service at large.

TABLE 1
Psychological programs, projects and contractors of the Special Devices Center

PROJECT	CONTRACTOR
PROGRAM A: DEVICE DEVELOPMENT AND PSYCHOLOGICAL EVALUATION	
1. Consulting services in optics	University of Rochester, Institute of Optics
2. Utilization studies of gunnery trainers	State University of Iowa
3. Utilization studies of Mark 18 Coordination Trainer	Tufts College
4. Evaluation of primary flight trainers	Psychological Corporation
5. Evaluation of the "Flybar" Link instrument trainer	American Institute for Research
6. Research and development on an "alertness indicator"	Tufts College
7. Procurement of New London Color Vision Lantern	Macbeth Corporation
PROGRAM B: RAPID MASS LEARNING	
8. Classroom communicator	The Ohio State University
9. Teach-test devices	The Ohio State University
10. Procurement of small drum automatic tutor	Brandywine Precision Mfg. Co.
11. Instructional film research project	Pennsylvania State College
12. Evaluation of radio and television as educational media	University of North Carolina
13. Utilization and educational research with television	Fordham University
PROGRAM C: PSYCHOLOGICAL RESEARCH ON NAVAL TRAINING PROBLEMS	
14. Evaluation of the Ranging-Tracking-Aiming Point Assessor	Tufts College
15. Automatic Reading Assessor	Tufts College
16. Psycho-educational survey, recommendations and research in support of Naval Air Training Command program	Richardson, Bellows, Henry and Company, Inc.
17. Voice communication trainer evaluation and talker training	Purdue University, Department of Speech
18. Research on training techniques for voice communications	Kenyon College
PROGRAM D: RESEARCH AND SYNTHESIS OF HUMAN ENGINEERING DATA	
19. Handbook of Human Engineering Data	Tufts College
20. Human factors affecting performance in high speed aircraft	Psychological Corporation
21. Optimal force-displacement characteristics of aircraft controls	Psychological Corporation
22. Perceptual problems in visual displays	Mt. Holyoke College (subcontract with Johns Hopkins)
23. Design of dials and indicators for radar and associated equipment	Purdue University, Applied Psychology Laboratory (subcontract with Johns Hopkins)
24. Research on physical characteristics of machine controls in relation to motor abilities and aptitudes	State University of Iowa
25. Studies of factors affecting transfer in motor tasks	Connecticut College
26. Research on human operator's capacity to utilize various types of control mechanisms	University of Rochester, Department of Psychology
27. Motion-and-time studies of equipment displays and controls	Purdue University, Motion-and-Time Study Laboratory (subcontract with Johns Hopkins)
PROGRAM E: SYSTEMS STUDIES	
28. Systems Research Project	The Johns Hopkins University
29. Equipment design and arrangement	Dunlap and Morris, Inc.
30. Design and evaluation of aircraft display and control systems	University of Illinois
31. Human factors in cockpit design	Psychological Corporation
32. Aircrew coordination	New York University

areas there exists a number of contracts. Table 1 presents in outline form the specific projects and the contractors, grouped under the five major program

headings. For purposes of easy reference, the projects are numbered consecutively in Table 1. Each of these programs will be described separately.

DEVICE DEVELOPMENT AND PSYCHOLOGICAL
EVALUATION

The projects listed under Program A in Table 1 represent, in part, a continuation of those psychological services which are necessary in the design and development of synthetic trainers. During World War II there was neither time nor opportunity to conduct the validity and reliability studies which theoretically are necessary to insure that such devices are psychologically sound (19). It is disturbing to report that the post-war situation is not providing any marked increase in the frequency of application of these psycho-technological services. The major factors which prevent true validity studies of trainers are their time-consuming nature and cost. There is also a severe shortage of military personnel to serve as subjects in such experiments. In some instances where a projected trainer is expected to receive extensive usage, to be costly in production, or where there is a doubt as to its actual training value, we have managed to establish either reliability and/or validity studies. In lieu of actually "pretesting" the trainer, the personnel of the Human Engineering Branch spend a great amount of time in consultation with the project engineers in charge of particular trainer developments.

In some instances the human engineers are called upon to make recommendations concerning the design of the trainer from the point of view of the realism of simulated situations. Such questions frequently involve the creation of visual illusions and consequent problems of optical design. Expert consultation services on such matters are available from the Institute of Optics of the University of Rochester (see Project 1 under Program A in Table 1).

Of the projects listed under Program A of Table 1, Numbers 2, 3, and 4 are psychological evaluation studies whose aim is to determine the training value of particular devices. The Iowa project was one of the few begun during World War II and there have been submitted six reports on a like number of different gunnery trainers. The Tufts College study has recently been completed and has led to a set of recommendations regarding the development of a new trainer for a lead computing sight which will incorporate many of the psychological principles of learning. In neither of these studies has it been possible to measure the transfer effects between the practice and the operational situation although much valuable information was obtained concerning the

shape of the learning curves, final limits of performance, adequacy of scoring devices, spacing of practice, and so forth. The matter of validation is being considered by the Psychological Corporation whose project staff is located within the Naval Air Training Command at Pensacola, Florida. Experimental and control groups have been formed from among the students as they enter the training command and their performance during a series of tests on new and old types of flight trainers will be correlated with subsequent measures of their success during basic and advanced training. A new type of personnel jacket for naval aviators will provide more adequate criterion scores than have hitherto been available. It should be observed, incidentally, that the determination of adequate criteria of job performance still constitutes one of the major obstacles to the military psychologist interested in either training or selection.

The American Institute for Research has just begun a study to discover the extent to which auditory signals can replace visual indicators during instrument flight (Project 5). This work is a continuation of a program begun by the Harvard Psycho-Acoustic Laboratory (6). The Institute intends to experiment with these auditory cues to flight performance both in a Link Instrument Trainer and in the air. The notion of relieving one sense field by utilizing another is being exploited with increasing frequency by military psychologists (5, 13, 14).

Project 6 is a research and development contract with Tufts College to explore the possibilities of the development of a simple, automatic electronic device for signalling when a person is becoming dangerously inalert. A feasible physiological indicator has been discovered in the muscle action potential output from the supra-orbital eye muscles (10, 11) and a laboratory demonstration of the alertness indicator has already been achieved. Further work will consist of the development of a portable (and/or pocket) model of the electronic amplifier and integrating equipment and tryout in service and field situations.

Project 7 is also the development of a particular device, in this case the production of test models of a color vision lantern. Preliminary tests of a prototype model have shown that the lantern has high reliability, is quickly administered, and correlates highly with the pseudo-isochromatic plates (3). It is also more difficult to "coach" a man to obtain a passing score than to coach him to pass the pseudo-isochromatic plates. Production models of the lantern will be tested by the Bureau of Medicine and

Surgery for possible adoption as standard color vision testing equipment.

RAPID MASS LEARNING

The projects listed under Program B in Table I are devoted to the exploitation of methods and techniques which can be used for the efficient and rapid training of large groups of individuals. The projects entitled Classroom Communicator and Teach-Test Devices (Numbers 8 and 9) are part of the concentrated program which the Ohio State University has been conducting for a number of years on academic acceleration and time-saving during professional training (16). Several prototype models of small pieces of classroom equipment have been developed. When used by the student they force him to follow several of the important principles of learning. They also aid the instructor in giving spot quizzes which are scored at the time of the examination. Project 10 involves the procurement of production models of one of these teach-test devices.

Project 11 requires that research be performed to derive principles and facts which should be used in the production and utilization of instructional sound motion pictures (2). The investigators, in this case, are members and graduate students of the Departments of Psychology and Education in the School of Education of the Pennsylvania State College. The goal of these studies is to make recommendations which can be used effectively by those individuals in the Navy Department engaged in the preparation of training films.

Projects 12 and 13 are also investigations of the potential pedagogical value of mass communication media. The Communication Center at the University of North Carolina is just now undertaking a one-year experiment in which various forms of radio presentation will be evaluated against each other and conventional classroom methods of education. This contractor is also furnishing expert consulting services to the television studio now being installed at the Special Devices Center. When this studio is completed it is planned to conduct experimental educational research with this newest type of mass communication medium. The objective of these television studies is to delimit the advantages and disadvantages of television as a means for accomplishing the Navy's teaching requirements. It seems to be generally agreed that expert and effective teaching was at a premium during World War II. The notion of concentrating the best instructors and

instructional aids at one center and syndicating the program to great numbers of Navy classrooms and training facilities on a nationwide basis is extremely attractive. Since there are many overlapping techniques which are common to motion-pictures, radio, and television, the university staffs which are engaged on Projects 11, 12, and 13 have established continuous and effective liaison with each other.

PSYCHOLOGICAL RESEARCH ON NAVAL TRAINING PROBLEMS

The feature which distinguishes Program B from Program C is the immediacy of application of the research results to naval matters. The rapid mass learning projects are concerned with the general educational effectiveness of various pedagogical methods, whereas Program C is concerned with specific technical training problems which confront the present-day Navy. Project 14 is an evaluation study of an assessor device which was developed originally to make precise measurements of man and/or machine performance with various types of aerial gunnery sighting systems. Although the equipment was found to be an ingenious piece of machinery in many respects, it has been found lacking in a number of desirable attributes such as exact reproducibility of target courses, and simplicity of maintenance. The excellent electro-physiological equipment at Tufts College for the study of eye movements (1) is being utilized in the development of an automatic reading assessor (Project 12); it is the aim of this project to produce an instrument which naval personnel can use by themselves to assess their own reading performance and to improve it if desirable.

Project 16 was instituted at the request of the Chief of the Naval Air Training Command. Richardson, Bellows, Henry & Company, Inc. have established a staff within the Command at Pensacola, Florida. They have completed a survey of the educational procedures and demands within the air training program; their recommendations concerning instructor training, examining and rating systems, classroom lecture and demonstration procedures, curricular planning, subject syllabi, etc. have already been acted upon in part. Further technical assistance and some educational research are now in progress.

Projects 17 and 18 are providing the technical training commands with practical assistance on talker training methods and voice communication

systems. The Department of Speech at Purdue University has completed several evaluation studies of voice trainers and teaching methods, and has conducted a special training course for aircraft control tower talkers. The Kenyon College staff is investigating voice factors which affect speech intelligibility; their work is conducted both "on campus" and at a psycho-acoustic laboratory which has been established at the Naval Air Station, Pensacola.

RESEARCH AND SYNTHESIS OF HUMAN ENGINEERING DATA

The projects which fall within this program (Program D, Table 1) may be grouped into three categories: (1) collection and evaluation of existent human engineering data, (2) research on the sensory display aspects of equipment design, and (3) research on equipment controls. The latter two categories received considerable emphasis during World War II and now constitute the major areas of investigation by contemporary military and industrial engineering psychologists (5, 8, 9, 12, 13, 14, 15, 17).

In order to acquaint naval officials with the field of human engineering, and to assist design engineers in taking account of human factors in their engineering designs, it has been expedient to spend considerable effort in reviewing what has been done in the field. Project 19 is a two-year contract with Tufts College to produce a *Handbook of Human Engineering Data*. Research results available in the professional journals, service reports, and OSRD reports are being reviewed. Every attempt is being made to present these data in a form meaningful to the engineer and interested naval personnel so that individuals not conversant with the terminology of psychophysiology may apply the information to their relevant problems. The *Handbook* is being prepared on a chapter-by-chapter basis. It will cover such topics as vision, audition, and muscle sensitivity, motor and sensorimotor coordination, rules and principles of learning, reaction time, environmental variables in efficient performance, etc. The contractor is assisted in his planning by an advisory panel of leading psychologists. Also, as successive drafts of separate chapters are completed the contents are reviewed by experts in that particular field.

The *Handbook* will be a general summary and presentation of significant material in human engineering. The Navy also has continual demands for specific information on how particular engineering developments may be influenced by operator charac-

teristics. Aircraft performance, for example, is now hampered in its continued development by human fallibilities as well as by the technical difficulties of aeronautical engineering. Under Project 20 the Psychological Corporation is furnishing the Special Devices Center with information on the limitations of human performance in the operation of high speed aircraft. Among the particular topics being reviewed are visibility at high altitudes, the biological and psychological effects of ultrasonic energies, and the effects of accelerative forces and high temperatures on human efficiency. Project 21 is also a literature survey project by the same contractor, in this case dealing with the optimum "feel" of aircraft controls in terms of kinesthetic sensitivity.

In the field of equipment display there are two projects, each being supported as a sub-contract with The Johns Hopkins University (see Project 28 below). The Mount Holyoke College studies (Project 22) are on perceptual problems in visual displays. Experiments already completed cover such topics as accuracy and variability of unaided estimates of angular and linear extents, velocities, arc-lengths and number of objects. The Applied Psychology Laboratory of Purdue University (Project 23) is working on the design of dials and indicators; the contractor has recently submitted reports on (1) the effect of instrument dial shape on legibility, and (2) the design of numerals for use in counter-type instruments.

In regard to research on equipment controls, the Human Engineering Branch has established three contracts on motor skills and abilities (Projects 24, 25 and 26). The State University of Iowa contract calls for research on the location of controls with respect to body movement and position, the effects of friction, mass and backlash on controlling behavior, and fundamental studies of the efficiency of various types of motor behavior. Connecticut College is making analyses of the significant components of complex motor performances and studying the factors which produce transfer of training between motor tasks (7). Psychologists at the University of Rochester are investigating factors which affect the adequacy of performance of positioning, repetitive and continuing movements and interrelationship of motor tasks with special reference to facilitation and interference. It is anticipated that these three contracts, although providing for rather general studies in the field of motor abilities, will provide information of direct application to the design of machine controls.

The last project in this program (Number 27) is under the supervision of the Motion-and-Time Study Laboratory of Purdue University. This group is seeking a determination of basic design data for the location and arrangement of different types of equipment controls such as switches, knobs, levers, cranks, and so forth. They are also concerned with the principles of sequential operation of groups of controls.

SYSTEMS STUDIES

By "Systems Studies" we mean a consideration of human engineering research as described above to whole systems of men and machines who work simultaneously and in coordination to accomplish a particular task. In addition, then, to the problems of individual machine display and control, we have the further complication of the arrangement layout and interaction between groups of men and equipment components on overall man-machine efficiency. The Navy has many such examples of crew coordination: studies of this sort are needed particularly in the field of communications.

The Systems Research Project (Number 28 in Table 1) is the most long-established, the largest and the most difficult of our psychological contracts to describe briefly. The work was begun under an OSRD contract with Harvard University and transferred to the Office of Naval Research in December 1945. Direction of the work is by the Department of Psychology of the Johns Hopkins University. The Electrical Engineering Laboratory of the University provides engineering services and research equipment for the psychologists. A Field Laboratory at Jamestown, Rhode Island is also maintained by the contractor. Sub-contracts are held with the Industrial Engineering Laboratory of New York University, the Motion-and-Time Study Laboratory and the Applied Psychology Laboratory of Purdue University, and the Psychophysical Research Unit of Mt. Holyoke College. The mission of this group of laboratories, broadly stated, is to conduct psychological, physical, and motion-and-time studies relevant to military information systems and devices. It is apparent that the research being conducted by the various sub-contractors (see Projects 22, 23 and 27 above) fall under this general directive. The investigators employed directly by the Johns Hopkins University are engaged in a related program of experimentation. At any one time their research and development projects may be 30-40 in number.

These on-going experiments fall under the following categories: (1) design and layout of radars and associated equipment; (2) the design of dials and indicators for radar; (3) factors affecting the detectability of radar signals; (4) methods for indicating the presence and location of radar signals; (5) basic auditory research relevant to the designation of such signals; and (6) visual research on plotting and display systems. In the course of such experimentation a number of apparatus contributions have been made, for example, a projection timer for visual research, a voice reaction timer and photomultiplier photometer. Another basic contribution of the Systems Research Project is their formulation of methodological procedures for the conduct of systems analyses; their "system for doing systems studies" has produced considerable favorable comment from industrial engineers and psychologists and has been found to be general in its application. An indication of the fundamental nature of much of the research accomplishment of the project is the fact that many of their reports receive their first publication in the professional psychological and engineering journals.

Projects 29, 30, 31 and 32 also involve the study of human factors as links in a complex system of men-and-machines. Project 29 is conducting field studies of the layout and arrangement of equipment components in various types of naval vessels. Their work is done mainly at the request of the bureaus of the Navy Department. Such an arrangement brings the staff of Dunlap and Morris, Incorporated into close and early contact with the designers of equipment, thereby making possible the implementation of psychological considerations at the design stage of development. Many psychologists who worked on human engineering problems during World War II will recognize the extreme value of this contact. Projects 30 and 31 deal with instrument display, arrangement and control problems which arise in the design of aircraft cockpits. The University of Illinois has already completed an analysis of the psychological requirements in the performance of a flight mission; this analysis has been of great assistance to our flight engineers because it has provided a psychological check-off list for the evaluation of present and contemplated equipment and instrument designs in terms of human characteristics. Project 31 was an activity study of crew behavior on air transports on long-distance flights; a number of useful recommendations were made in regard to check-off procedures and the layout of cockpit controls. Under Project

32, New York University has recently undertaken an investigation of aircrew coordination in heavy-type aircraft; particular attention will be given to communication problems because of the importance of this factor in crew efficiency.

SUMMARY

The Human Engineering Branch of the Special Devices Center, Office of Naval Research, is concerned with the coordination of men and machines. The complexity of naval equipment and procedures requires that special effort be made to adapt operational requirements to the psychological capabilities and limitations of human operators. Such coordination is achieved in two ways: (1) By the development of particular training devices and methods, programs have been established dealing with device development and psychological evaluation, rapid mass learning, and research on technical naval training problems. (2) Equipment and military operations are simplified by the application of findings of human engineering research and systems studies.

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Received May 6, 1948

A PSYCHOTHERAPEUTIC METHOD OF TEACHING PSYCHOLOGY

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THE interest at Lewis and Clark College in experimenting with educational methods that will result in emotional growth provoked the following tentative investigation in the area of personal relationships within the college classroom. The specific purpose of the study was to determine the amount and kind of classroom participation resulting from two kinds of teacher-student relationships set up in classroom discussion groups. A class conducted along the lines of group therapy was compared in this respect with a traditional discussion class. A class of 102 students enrolled in general psychology was studied. The class met four days a week; two periods were lecture periods for the entire class; on the other two days the class was broken down into three discussion groups of equal size, with which the instructor met in turn.

Discussion group A was handled in a non-directive therapeutic fashion. This group will be referred to as the *student-centered* discussion group. The relationship between student and instructor was carefully structured at the beginning of the term. It was explained that the instructor would express his ideas during the lecture period and that the discussion period would be for the purpose of providing the student with opportunity to express his ideas or feelings on any subject that he cared to. The instructor did not ask questions, correct short-sighted or inaccurate statements, or in any way try to direct the discussion along particular lines, other than to designate the general area being covered in the textbook. He did not express his own views, nor did he answer questions directed at him. Techniques developed by Carl Rogers and used in individual counseling were used entirely in this group.¹ The opening statements of the instructor at each class session were usually non-directive leads such as, "Well, what would you like to talk about today?" or, "I've been expressing my views in the lecture period; perhaps you would like to take this period

to express your feelings on the subject." Usually a student would strike out on some subject being dealt with by the textbook; occasionally he would start commenting on something he personally had been considering. Whenever feelings were expressed, the instructor would reflect the feeling by restating the student's expression in different words. When factual or intellectual statements were made, the instructor reflected mainly the content of the expression by restating in conversational style the idea expressed by the student. Whenever there was a pause, the instructor simply relaxed at his desk and waited for someone to start talking again. If the pause became too uncomfortable for both students and instructor, the instructor would reflect the feeling expressed by a student in the immediate past, or resort to a non-directive lead to invite further discussion.

Discussion group C was handled in a directive fashion and will be referred to as the *instructor-centered* group. The instructor carefully designated the particular topic for discussion. He asked questions of the class in general, aimed at bringing out the salient points of the topic. The instructor took the initiative in provoking discussion. He answered questions, settled disputes or arguments, and gave information. He brought the discussion back to the topic when it tended to stray. The salient difference between group A and group C was that responsibility was left with the student in group A and with the instructor in group C.

In group B, the third discussion group, methods used in group A and group C were alternated.

In each discussion group the number of statements made by each student was recorded.

RESULTS OF THE EXPERIMENT

Amount of participation. Figure 1 gives a graphic presentation of the total number of remarks made from day to day by students in each of the three groups. A significantly greater amount of participation was present in group A than in group C.

¹ Rogers, Carl R. and Wallen, John L. *Counseling with returned servicemen*. New York: McGraw-Hill, 1946.

Group *B* fluctuated between *A* and *C* according to the method being used for that day. The amount of class participation seemed to respond rather sensitively to the techniques used by the instructor and was in direct proportion to the degree to which it was student centered.

The trend in amount of discussion for group *A* was slightly upward throughout the 18 sessions; for group *B*, upward until the seventh session and from there on slightly downward; for group *C* slightly

C. Table 2 indicates that a significantly higher percentage of the instructor-centered group failed to participate in the class discussion—over three times as many in the instructor-centered group as in the student-centered group.

The median number of students participating daily in the student-centered discussion group was fourteen, ranging from twelve to seventeen, whereas in the instructor-centered group the median number of students participating daily was seven, with a range from three to eleven.

Content of the discussions. A difference in the degree to which students in group *A*, the student-

TABLE 1

Total number of statements made in each of three discussion groups

DISCUSSION GROUP	TOTAL NUMBER OF REMARKS	MEAN NUMBER OF REMARKS PER PERSON
Student-centered	1089	33.0
Instructor-centered	472	12.2
Alternating methods	765	22.5

TABLE 2

Percentage of nonparticipation in each of three discussion groups

DISCUSSION GROUP	PERCENTAGE MAKING NO REMARKS	PERCENTAGE MAKING FEWER THAN FIVE REMARKS
Student-centered	9.1	18.2
Instructor-centered	33.3	51.5
Alternating methods	23.5	41.2

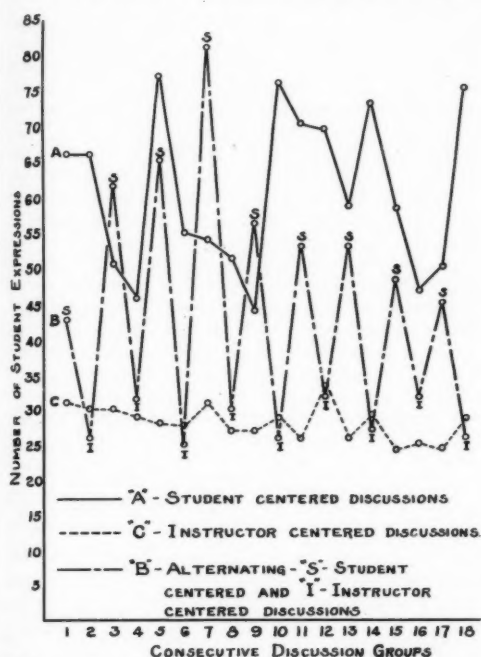


Fig. 1. Number of student expressions during eighteen class sessions in three types of discussion groups.

but consistently downward throughout the 18 sessions.

Table 1 presents the total number of remarks made during 18 class sessions for each of the groups. Over two and one-half times as many remarks were made by students in the student-centered group, as in the instructor-centered group. Group *B*, where alternating methods were used, fell about halfway between the other two groups in number of statements made. The differences noted in Table 1 are statistically significant at the one per cent level.

There was less tendency for one or two members to dominate the conversation in group *A* than in group

centered group, and students in group *C*, the instructor-centered group, expressed ideas related to personal experiences was noted. Whereas group *A* tended to express personal feelings and experiences in connection with the topic being discussed, group *C* seemed to discuss largely the issues in a purely intellectual way, with fewer references to their own experiences.

The following excerpt is typical of the discussion of group *A*, the student-centered group. The chapter being discussed was "Control of Emotions," in Ruch's *Psychology and Life*, second edition.

1. St. A: I've wondered about this business of getting used to the object that you are afraid of. I don't purposely mean to be bringing in my war experiences all of the time, but they are real to me. When the Japs were firing at us and it was falling all around us, why, uh, I never did get over

being afraid, even though the stimulus was frequently applied. How about that?

2. Inst.: Despite your continued experience with the firing you still felt a little bit shaky about it all, and I take it that it provokes some doubt in your mind about overcoming fear with frequent application of the stimulus.

3. St. A: Yeah, that's right. We would be marching along and sometimes it would come down like hail all around you, and every once in a while a big one would land not too far away. I was downright scared and every time it did that, well, I felt like I wanted to get out of there. Sometimes one of the fellows would say, "Oh, that's nothing; I'm not afraid of it." But we knew damn well he was. It seemed like when we sat down and someone would admit that he was a little afraid and then we all just told the way we felt and talked about it, it didn't seem so bad. We felt better about it.

4. Inst.: You feel that admitting the fear and kind of getting it off your chest and hearing other fellows do the same cleared the atmosphere for you.

5. St. A: Yes, that's right.

6. St. B: It was just a little bit different with me. I wonder how you would explain this? When things got hot I felt like I didn't care.

7. Inst.: Mmmm.

8. St. B: I felt like this: "Oh, what's the use?" I don't know that I felt so much afraid—probably I did—but it was that hopeless feeling that got me.

9. Inst.: You felt bothered by the feeling that you reacted to the experience in a hopeless way—as if it weren't quite the feeling that you should have been experiencing.

10. St. B: Yes, like—well—I was on a ship and was behind this gun and there were some Jap zeroes diving at us. One started heading for us and I was firing away like mad and then my gun went out of commission and there I was. I couldn't get out because I was fastened in and the Jap kept coming and I thought to myself, "Oh, hell, what's the use!"—I just gave up.

11. Inst.: You just felt limp with the hopelessness of it all.

12. St. B: Yeah, I sure did.

13. St. C: I know how he feels. I had something like that happen to me, only in a little different way. We were away out in front and it had been tough going; they were laying it down heavy and a fellow didn't know from one minute to another when one would come with his number on it. It was during the evening and my buddy and I finally cracked down into a shell hole to get a little sleep. We decided that I would take the first watch. Well, along about midnight I suddenly heard him sobbing. I didn't know what to do—there wasn't anything I could say that would help. I just felt miserable and useless—just like B said, "Oh, hell, what's the use of it all." So we both sat there until morning.

14. Inst.: You felt that circumstances were beyond your control, and even though you would like to have done something to relieve your friend, you felt that there wasn't much you could do.

15. St. A: I was saying that experiencing this shelling frequently didn't overcome my fears. Maybe experiencing it often is dependent on other factors; that is, if a fellow gets frightened every time and he feels *ashamed* about it, then perhaps frequent application of the stimulus increases his fears, but if he were to talk over his fears with the other

fellows and they expressed how they felt and if he realized that there wasn't anything to be ashamed about, and that whatever feeling he had was his—I mean it was just the way he felt about it—well—the repetition of this experience might actually decrease his fear.

16. Inst.: You feel then that it isn't just the application of the stimulus but the degree to which this application of stimulus is associated with the freedom of the person to express how he feels and to just be himself.

17. St. A: Yes, and it's not only in the stimulus—I mean the stimulus is sort of irrelevant. It's the other thing along with the frequent application of stimulus that counts.

18. Inst.: Then it's—

19. St. D: Hearing these guys tell about their experiences makes me want to tell about what I'm afraid of. I wasn't in the army so I can't tell about any experiences like these fellows have been talking about. I have always been afraid of snakes. I've never admitted this to anyone before, but actually every time I see one it makes me shudder. Where I came from we had plenty of rattlers. Hearing them frequently certainly didn't help me to overcome my fear of them.

20. St. E: I've felt the same way about speaking in front of a group of people. It seems to get worse the more I do it, not better.

21. Inst.: So that essentially what the fellows observed under fire was experienced by Mr. D in connection with the rattlesnakes and Miss E while speaking before groups. And I take it that as long as everyone else is expressing their experiences in relation to fear that it makes others of you feel free about tossing in your two cents worth.

In the above excerpt the personal nature of the discussions in group A is evidenced. In item 1, student A put out a tentative feeler, apparently toying with the idea of expressing more fully his feelings and then concluded his statement with a question, which apparently invited the comments of the instructor. At this point it would have been easy for the instructor to assume responsibility for supplying information to the student by referring to the results of a number of studies or by referring to the textbook; or he might have supplied the answer from his own experience. It is the contention of this writer that if the instructor had responded to the question raised by the student in item 1 and had attempted to answer it in one of the above ways, item 3 would never have been expressed by the student. The answer of the instructor would have carried with it the finality of authority and the way would not have been left open for the student to explore his feelings further. As it was, the instructor recognized the feeling that the student was trying to express, rather than the content of his question. The clarification of this feeling in the reflective statement, item 2, made it possible for student A to go deeper into his personal experience in item 3 and

promoted the participation of students *B*, *C*, and *E*, in items 6, 13, 19, and 20, by demonstrating to them the permissiveness of the situation. But even more important than this, the reflective statements of the instructor permitted student *A* to carry his analysis further so that he gained an insight which he expressed in items 15 and 17. The insight goes beyond the materials expressed in the textbook and not only relates these materials to personal experiences but reorganizes them in a new way.

The above excerpt may be compared with the discussion in group *C* which covered the same chapter from Ruch.

1. Inst.: I'd like to have you discuss the problem of controlling emotions. Ruch has described several methods, some of which he feels are not as adequate as others. What are some of these methods?

2. St. *E*: There's the method of disuse, use of ridicule, verbal appeal, and reconditioning.

3. Inst.: Any others?

4. St. *F*: One which she left out is the frequent application of the stimulus.

5. Inst.: What do you regard as the advantages or disadvantages of these?

6. St. *F*: Well, I don't think that I understand what the method of frequent application of stimuli is.

7. Inst.: As its title implies, it simply refers to the bringing of the person frequently into contact with the object which he fears. The assumption is that the person will eventually get accustomed to the object which is feared and consequently will discount its fearfulness. (Instructor proceeds to give an example of a six-year-old frequently brought into contact with a dog which is feared and finally ends his remarks with the following question.) What do you regard as the advantage or disadvantage of this method?

8. St. *G*: Well, Ruch said that where it worked it removed only negative responses and did not leave the child with positive responses.

9. Inst.: Yes, that's right. Could any of you give an example—perhaps some personal experience which would illustrate this point?

(Silence; no one responds.)

10. Inst.: (Proceeds to give an example illustrating the idea brought out by student *G*. Finally ends remarks with the following question.) Are there any other advantages or disadvantages in this method?

(Silence; no one responds.)

In the above excerpt from the discussion of group *C*, the instructor defines the problem to be discussed—(item 1), seeks to draw out the students by asking questions, and supplies information when it is needed. The students fail to express their ideas or to assume responsibility for ideas that are expressed. The contents of the discussions were largely restatements of the textbook with a minimum of application to personal experiences.

Student attitudes toward discussion methods. Student reactions to the classes where student-centered techniques were used were asked for at the last session. These written comments were anonymous, and it was left to the student to volunteer any attitude he cared to express. He was not asked to comment on specific aspects of the program; whatever impressed the student sufficiently to provoke comment was desired. Since group *C* did not have an opportunity to experience student-centered methods, the students had no way of making comparisons. Responses were secured only in groups *A* and *B*.

Remarks made by students were classified in the following ways: 1. the degree to which they seemed favorably disposed toward the student-centered discussions and preferred this method over the tra-

TABLE 3
Number of students stating a preference for student-centered discussion groups

DISCUSSION GROUPS	NUMBER PREFERING INSTRUCTOR-CENTERED METHOD	NUMBER PREFERING STUDENT-CENTERED METHOD		Total
		Unqualified Preference	With Reservations	
Group "A"	2	13	16	31
Group "B"	11	7	15	33

ditional method; and 2. the kind of values obtained from the discussion.

Table 3 indicates that in both groups *A* and *B* more students expressed preferences for student-centered discussions than for instructor-centered ones. This preference was more pronounced where student-centered methods were consistently used than where the methods were alternated.

Typical statements which referred to the greater social and emotional value that students felt resulted from student-centered discussion periods are as follows:

(1) This class permits an ease of mind. In most classes one feels ill at ease because he feels he is being judged, but in here you can express what you have been thinking and everyone seems to try to understand what you are trying to say. They accept you in here, not only the students but the prof.

(2) This class has been helpful to me in overcoming some of my fears about talking with a group.

Typical statements concerning the greater enjoyment and interest generated by the student-centered discussion were as follows:

(1) I always started thinking when I came into this class, whereas I usually begin worrying about how to pass the next fifty minutes listening to the instructor without falling asleep. (2) We just seem to get started in here and there goes the bell. Fifty minutes seem like hours in lots of classes but not in here.

Some typical expressions concerning the intellectual content of the discussions were these:

(1) It seemed like we beat around the bush too much and did not discuss the text enough. (2) This business of letting the student lead out is O.K. as I see it and allows the students to bat the material around till the shell drops off and the right stuff comes out. (3) I do not feel it is nearly as valuable as when the instructor brings out the accurate and pertinent facts.

The remarks dealing with the kind of values accruing from participation in student-centered groups as compared with instructor-centered ones are classified in Table 4. The majority of students felt that they received greater social and emotional value

group. It was found that students in group C had a mean grade point average of 2.40 as over against 2.33 for group A in all other class work at Lewis and Clark college. The slightly greater achievement in group C than group A would place the odds in favor of group C to excel in the three tests administered. Table 5 presents the average scores for the two groups in all three tests.

The student-centered group, group A, had a higher mean score for all three examinations despite the fact that the achievement of group C seemed to be somewhat higher than group A in other courses, and despite the fact that about two thirds of group A had indicated the intellectual shortcomings of the student-centered discussion method. The differences reported in Table 5 are statistically reliable at the five per cent level when we combine the probabilities of chance fluctuation on the three tests. There certainly is no reason to believe, judging from

TABLE 4
Number of students reporting emotional, social, and intellectual values from discussion groups

DISCUSSION GROUPS	SOCIAL AND EMOTIONAL VALUES GREATER IN		INTEREST AND ENJOYMENT GREATER IN		INTELLECTUAL ADVANTAGES GREATER IN	
	Student-centered	Instructor-centered	Student-centered	Instructor-centered	Student-centered	Instructor-centered
Group A.....	10	0	20	0	7	16
Group B.....	9	2	13	2	9	20

from the student-centered discussion groups and that greater interest was generated, but a significantly greater number (about two thirds of the group) felt dubious about the amount of information and knowledge received as compared with instructor-centered groups. The following expression of a student summarizes rather well the sentiment of about two thirds of the students: "The free discussion class teaches me less in the way of actual facts, but it helps me to feel free and at ease with myself and with other people."

Intellectual results. Three examinations of the objective type were administered to the entire group during the semester. There were 264 items in all. Their reliabilities ranged between .82 and .91 as determined by correlating odd and even items and correcting by the Spearman-Brown formula. The tests were based on the textbook being used—Ruch, *Psychology and Life*.

In making a comparison between the two groups it was important that the general aptitude of the control group approximate that of the experimental

TABLE 5
Mean examination scores for student-centered and instructor-centered discussion groups

DISCUSSION GROUP	EXAM. I	EXAM. II	EXAM. III
Student-centered.....	47.3	63.7	62.2
Instructor-centered.....	45.1	61.5	60.7

test results, that the student-centered group was handicapped intellectually. The widespread observation on the part of the students that the student-centered group discussions resulted in less of an accumulation of facts and information was not borne out by the facts presented in Table 5.

The discrepancy between what students feel about their accumulation of knowledge and actual test results warrants a re-examination of the attitudes expressed by the students toward the course. Two types of attitudes seem relevant here. One was the general expression of doubt as to the validity of statements made by other students, and a desire

to have some authority to rely upon. Such statements as these were widespread:

- (1) Whatever the conclusions were, they were student deductions and not backed by the instructor's experience or information; as a consequence I have retained many of these decisions as fact when I have no definite basis for believing so.
- (2) When a decision is made I should like to have it verified. The student discussion was much more interesting and informative to practical questions, only not absolutely valid.

Actually the discussion brought out a wealth of facts and information which were authentic and verified. In many instances the instructor felt that the presentation of facts by students was as comprehensive and was much more interesting than if he had made the presentation. It may be possible that students are so accustomed to looking upon the teacher as an authority and as a ready source of information that they feel uneasy when they are placed in a situation where they must rely upon their own judgment and assume responsibility for their own decisions. This tendency to discredit the validity of statements from fellow students and the uneasiness generated by the absence of some authority to rely upon may have caused an understatement of the intellectual value of the discussion.

The second attitude expressed by students which may account for the discrepancy noted above was that student-centered discussions tended to place more responsibility upon students. This resulted in greater efforts on the part of the student on his own initiative. The following statements were made by students:

- (1) I think that the free-for-all kind of discussion group

is an excellent idea because more responsibility is placed upon the students's shoulders to get the proper amount of information out of the course. It's up to the student, not the teacher, to get what he wants out of college. (2) When the discussion brings out a variety of views and opinions so that I don't know which one to accept, I feel obliged to check through the text and other literature and then make up my mind on the basis of what I find; I suppose if the instructor gave me the answer I would accept it and not even bother about looking it up.

The feeling of greater responsibility on the part of students may have generated greater activity and a greater need to pursue text materials in an effort to find answers to significant problems raised in the discussions. This in turn may have accounted for the higher test scores in group A.

CONCLUSION

The above study focuses attention upon social relationships within the classroom and the problem of dividing responsibility in a way which will be productive of the maximum amount of intellectual and emotional growth. Non-directive therapeutic techniques were used to effect a situation in which more responsibility was assumed by students and the outcome compared with a control group in which greater responsibility remained with the instructor. A greater amount of participation of a more personalized nature was noted in the group organized along psychotherapeutic lines. The indications are that the intellectual growth of members in the therapeutic section did not suffer but was enhanced somewhat by the relationship.

Received March 17, 1948

FIELD WORK IN MENTAL HOSPITALS FOR UNDERGRADUATES

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DURING the past summer the Psychology Department of Rutgers University initiated a new course, *Field Work in Mental Hospitals*, at the New Jersey State Hospital at Trenton. The students worked for the hospital as regular attendants, receiving the attendants starting pay, and lived as a unit on the hospital grounds. They registered for the course which was listed as a regular summer session course, and paid the tuition fees for three hours credit which the course carried. The course was organized and directed by the author. His interest in the project was aroused by the American Friends Service Committee and the National Mental Health Foundation. In recent years these two organizations have been attempting to attract a better class of personnel to mental hospitals of the country, particularly at the attendant level.

The author welcomed the opportunity of organizing such a course, for it had been realized for some time that college students are in need of some such practical experience on the undergraduate level. For some years we had been encouraging psychology majors to work in a mental hospital between the junior and senior year. This program had not met with much success. Only a few of the more resolute students remained in the hospital for the whole summer. Their stories were all quite similar: they were quartered with the regular attendants, who as a group are not very stimulating to college students; they were assigned a ward and were expected to do their work and ask no questions; the doctors and nurses treated them as lowly attendants and would have nothing to do with them. As a result the intellectual benefits were limited and the social situation almost unbearable.

The new course was organized and conducted along lines very similar to the Friends Institutional Service Units which have been running since 1943. The first step was to find a hospital which would agree to accept a unit of college students as hospital personnel for a period of ten weeks or more during the summer. It is unfair to a hospital to ask for a shorter period

of service. Most hospitals are quite willing to have you help recruit college students, but not many are willing to go out of their way in order that the students who do the work can learn something in the process. The hospital has to be convinced of the worth of the educational program. Long term aims, like increased community support, as well as the immediate gains from intelligent willing hands, have to be emphasized. It is well to start with the State Commissioner. If he can be convinced of the worth of the program, the problem at the hospital level is much less difficult.

The idea of college credit is also likely to discourage cooperation on the part of the hospital. The Friends have been insisting that the hospital give a minimum of thirty hours lecture to their units during the course of the summer. We asked for the same. Actually we got more. We also asked that our students have the privilege of reading case histories and attending staff clinics. Thanks to the ground work done by the Friends in this hospital, these requests furnished no barrier. Living space for the students is also likely to be a problem. It is highly desirable that they live and meet as a unit. This possibility should be a factor in selecting a hospital.

At the end of the first summer we can conclude that the program has been a great success. The students have received an insight into mental deviations that they would never have realized from reading a text book. As one student put it, "It makes the textbook come to life." They were surprised to find the line so thin between the normal man of the street and the patients in the hospital, and so few of the patients the raving maniacs they expected to find. They had a chance to see the shock therapies: to see the patients improve, remain unchanged, or occasionally get worse as a result of them. They also saw other therapies and were able to assess their value somewhat from their daily contact with the patients. Because of a previous agreement with the hospital, they were transferred at least three times during the summer. Thus they had an opportunity

to see various types of patients. An agreement of this sort is essential, or else the student will get a very narrow view of mental patients. Because of their university connection, they were able to talk with doctors and nurses about the patients.

One of the arguments that the hospital is likely to give upon being approached for a course is that their doctors have no time to give lectures. It is our experience that most of the doctors are pleased and stimulated by giving a couple of hours to a group of eager young minds. From our observations, it is anything but time lost on the part of the doctor. Too often the work of the hospital psychiatrist is a dull and isolated life. Hospitals are likely to be in isolated places where intellectual stimulation is difficult to find. This isolation was recently criticized by a group studying the hospitals of New York State.¹ One of the problems of state hospitals is to enlist the interest of the community. This program of contact between the university and the hospital is a fruitful step in this connection. At least this small but influential group of college students has been sensitized to the needs of the hospital and will carry the message to their friends and home communities.

Clinics are a natural teaching device in a hospital. It happens that in this hospital a training program for student nurses is already in effect which includes a series of clinics. These clinics were open to our group, and students were excused from ward duties when feasible if the clinics came during a duty shift. Special clinics were also organized for our group. The close contact with the doctors and nurses was one of the outstanding advantages which the students enjoyed. For one thing it gave them an opportunity to pick up medical terminology which would be a great help to them professionally and in their reading for class work. They were advised to get as much of this as possible. The staff library was also open to them which made available much medical literature often difficult to find in campus libraries.

Living as a unit was also a valuable experience. At the end of the day's work there was always much talk of the events of the day, discussion of the individual patients, evaluation of therapies and other techniques, and discussions of mental diseases.

In recruitment of students, it is important to emphasize the angle of service to the hospital. A group of students interested only in the intellectual advantages of the course would soon sacrifice the

interest of the hospital in the program. As the summer progressed and the students continued to give willing service on the wards, the hospital became more friendly and willing to have them share in the information available to the professional workers of the hospital.

An attempt was made to have the students see the operation of the hospital as an institution. There were lectures on institutional organization, nursing care, occupational therapy, feeding problems, admission of patients, legal aspects, bibliotherapy, recreational therapy, restraint, personnel problems, social service, the mental hygiene clinic, and the psychologist's place in the mental hospitals. These lectures were all given by the heads of the various services represented. They also saw many of these services in operation by visiting the various activities. In addition several guest speakers and the author lectured on related topics.

A word should be added concerning the effect of the course upon the personality of the student. It has been our observation, as well as others who have directed students in this type of work, that the experience is a positive factor in personality development. We have seen several cases of personality maladjustment greatly improved by a summer's work in a mental hospital. On the final examination no student reported that the experience had a detrimental effect. This fits in with our experience with corpsmen on neuropsychiatric detail during the war. However, this discussion should not be construed to mean that screening is unnecessary.

The success of the course depends a great deal upon the director. He should be qualified to counsel students, give lectures, and win friends at the hospital. There is bound to be some clash between the regular employees and the student group. The director can do much to smooth out these relationships by emphasizing the necessity of getting along with the hospital staff. We paid special attention to this phase of the program and as a result had no difficulties along this line.

The program described above appears to be a very desirable one for undergraduates. Aside from the many intellectual and social advantages to the participating students, it is a boon to the hospital concerned and institutions in general. Many colleges could support such a program. The plan as outlined above may not be the ideal one, but it has worked to the satisfaction of both the students and the hospital.

¹ N. Y. Times, Sept. 14, 1948.

Comment

The New Psychological Monographs: General and Applied

Psychological Monographs: General and Applied is successor to the *Archives of Psychology*, the *Applied Psychology Monographs*, and the *Psychological Monographs*. The *Archives of Psychology* terminated with monograph No. 300 (1945); the *Applied Psychology Monographs*, with No. 17 (1948). In seriation or numbering, *Psychological Monographs: General and Applied* will be continuous with the *Psychological Monographs*; that is to say, the new series will start with No. 288 (Vol. 62, No. 1, 1948). This continuity of seriation will suit librarians, without imposing inconvenience on others.

The principal reason for the merger of the *Applied Psychology Monographs* and the *Psychological Monographs* was an economic one. The *Applied Psychology Monographs* were costing the Association about twice as much per word as the *Psychological Monographs*. By merging the two series a significant saving is effected. At the joint meeting of the Publications Committee and the Board of Editors in September, 1947, the merger of the two monograph series was unanimously approved.

The *Archives of Psychology* have been merged with the *Psychological Monographs* since 1945. This merger was first suggested by the editor and owner of the *Archives*, Dr. Robert S. Woodworth. At the time of the merger, the *Archives*, while duplicating the *Psychological Monographs* in the types of research reported, failed to offer its contributors the larger circulation which the club-subscription plan of the APA made possible for the *Psychological Monographs*.

An important advantage of combining the three monograph series is that the new series, through the combined number of manuscripts received, will be less bedeviled by irregularities in the flow of contributions from year to year. The library- and club-subscription system, from which the APA derives most of its funds for publishing, requires that the approximate number of pages in each volume of a series be estimated and announced a year or more in advance. Both the estimate and the announcement can be made much more safely if the average number of manuscripts received each year is not too small.

By the original plan for *Psychological Monographs: General and Applied*, the editors of the *Psychological Monographs* and of the *Applied Psychology Monographs* were to continue as co-editors of the merged series. Upon the resignation, however, of Dr. J. F. Dashiell at the close of 1947, the Publications Committee of the Association appointed the author of the present note as single editor, to be assisted by a group of consulting editors. (Nearly all other journals of the APA follow

this same plan of organization.) Consulting editors for the *Monographs* have been selected with the advice of officers (usually the president or secretary) of the various Divisions of the Association. The full list of consulting editors will appear in each issue of the new *Monographs*.

Psychological Monographs: General and Applied will be distributed in the same manner as other journals of the American Psychological Association. The 1948 volume will be sent to all subscribers to Clubs A and C. In 1949 it will go to all Club A subscribers and to anyone who subscribes to it individually.

The business matters of *Psychological Monographs: General and Applied* will be handled by the APA office in Washington. In general, the same procedures will be followed and the same rules applied as in the old *Psychological Monographs*. The publication cost to the author will be about \$3.00 per page; and the author will receive 150 copies of his monograph without further charge. For monographs which are unusually expensive to print (because of tables, cuts, or halftones), the fee will be somewhat greater. An exact statement of the total cost of the monograph will be supplied to the author before the monograph goes to press. The major cost of publication—about 70-80 per cent—will be borne by the subscribers, not the author.

At the current rate of receipt of manuscripts, the lag in publication will probably run between 6 and 18 months from the time of final acceptance of the manuscript.

Because of delays in the printing office and the delays incident to the merger of the series and the assumption of responsibility by the new editor, the first monograph of the 1948 volume was not mailed to the subscribers until December, 1948. Other monographs in the 1948 volume will be mailed as quickly as they are printed, but the volume will not be completed until some time in 1949.

HERBERT S. CONRAD, *Editor*
Federal Security Agency
U. S. Office of Education
Washington 25, D. C.

Committee on Public Service Standards in Social Psychological Research

To the Editor:

In its phenomenal growth during the past fifteen years social psychology has exhibited certain faults common to any rapidly growing field of science. There has been an unevenness in the quality of the research carried on and an unevenness in the training and competence of research workers. Moreover, because its problems have an immediate bearing on practical problems of everyday life, the applications of social psychology have tended to

outstrip basic research. Practical pressures will continue to favor the applied phases at the expense of basic theoretical research and methodological development upon which sound applications must be founded.

These faults are reflected in the form of understandable doubts and confusions which exist both in the mind of the general public and in the social science world. There are doubts about the validity of some social psychological research and applications. There are confusions about *basic* and *applied* research, and between *sound* applied research and *unsound* applications.

Professional groups of social psychologists can help to solve these problems through the development of standards and criteria for the evaluation of social psychological research. The development of such standards serves several indispensable functions. It enables social psychologists themselves to make systematic appraisal of their own work. It helps to define the nature of basic and applied phases of the science, and the difference between sound and unsound applications. By being well publicized, these standards can help the general public protect itself against poor practices.

The responsibility for developing such standards and criteria rests naturally upon those scientists engaged in social psychological research and in the training of research workers. At present these scientists are most adequately represented in a professional way by two divisions of the APA, namely, the Division of Personality and Social Psychology and the Society for the Psychological Study of Social Issues. These two Divisions must therefore take the lead in the development and formulation of standards. Accordingly, they are setting up a joint Committee on Public Service Standards in Social Psychological Research. It is recognized that the formulation of such standards is a difficult and continuing task. Hence the Committee should be a permanent one. It will consist of the two presidents of the Divisions as *ex officio* members, a chairman chosen by them, and additional members selected by these three officers to give adequate representation to the various types of social psychological research.

In addressing itself to the task, the Committee is to consult the members of the two Divisions and to prepare a preliminary statement to be circulated to the membership before the 1949 meeting of the APA. Discussion of this preliminary statement of standards will be a formal part of the meetings. No final formulation will be proposed and published by the Committee until there has been full discussion and approval by the membership of the two Divisions.

It is not the task of the Committee to attempt a "policing" function over organizations or individuals engaged in social psychological research services. The major functions of the Committee, after a set of standards has been adopted by the membership of the two Divisions, will be twofold: (1) Since the methods of a science

continuously undergo change, the standards of scientific research must also undergo continuous re-examination. Thus the Committee must appraise the standards regularly and make such recommendations for change as it may deem desirable. (2) Since a statement of standards which is printed and filed away in journals does not come to the attention of large segments of the public concerned with social psychological research and applications, the Committee must undertake the continuous publicizing of social psychological research standards and the education of the public as to what constitutes acceptable quality of social psychological work and what fails to meet the minimum scientific standards.

In keeping with its functions, the Committee is instructed to cooperate with other committees of related professional groups carrying on similar activities. Thus the Committee has offered its services to the Committee of the Social Science Research Council on analysis of the pre-election polls and has been instructed by the Councils of the two Divisions to study the Social Science Research Council report in relation to the problem of research standards in social psychology.

The present membership of the Committee is as follows:

Ronald Lippitt, *ex officio*, Research Center for Group Dynamics

Theodore M. Newcomb, *ex officio*, University of Michigan

Jerome S. Bruner, Harvard University

Dwight W. Chapman, Research and Development Board

Allen L. Edwards, University of Washington

John S. Harding, Commission on Community Interrelations

Herbert H. Hyman, National Opinion Research Center

Daniel Katz, Survey Research Center

David Krech, University of California

Paul F. Lazarsfeld, Bureau of Applied Social Research

Robert B. MacLeod, Cornell University

Douglas McGregor, Antioch College

Gardner Murphy, College of the City of New York

Robert C. Tryon, University of California

Ralph K. White, Central Intelligence Agency

Submitted by

RICHARD S. CRUTCHFIELD, *Chairman*
Swarthmore College

Instinct: Confusion on the Mainland Also

To the Editor:

W. E. Vinacke's article, "Instinct: A Composite Student View" (*American Psychologist*, October, 1948, page 446), suggested that racial and cultural factors might have determined the nature of responses to the question, "What do you understand an instinct to be."

This writer repeated the experiment with 255 beginning psychology students at the University of Omaha.

The assignment made to the Omaha students was to

think over and hand in a statement as to what they understood an instinct to be. The responses were first classified according to the nature of "instinct." These responses easily fell into the same four categories that Vinacke found in his experiment. Secondly, the responses

TABLE 1
Functional nature of instinct

	OMAHA	HAWAII
Impulse.....	33.5%	32%
Response.....	33	33
"Intelligence".....	31.5	32
Sensory.....	6	4

TABLE 2
Specific characteristics of instinct

	OMAHA	HAWAII
Heredity.....	51%	39%
Unlearned.....	8	23
Unthinking.....	12	18
Unconscious.....	14	16
Automatic.....	12.5	12
Spontaneous.....	3.5	11
More in animals.....	3.5	9
Learning/culture.....	9.5	8
Universal.....	4	7
Survival.....	4	6
Unvarying.....	.5	3
Conscience.....	2	2

were classified according to the twelve specific characteristics found in Vinacke's study. Again, the responses yielded easily to the twelve categories. Tables 1 and 2 show the comparison of results in the two studies.

The trend seems to be the same in Omaha as in Hawaii with a few exceptions. The fact that the Omaha students

had covered "heredity" in class prior to this experiment may account for the greater number of students mentioning heredity or innateness and fewer students being less specific, mentioning "unlearned" as sufficient to explain the character of "instinct." Fewer Omaha students mention the "unthinking" characteristic; some of these students may be implying the "unthinking" characteristic in the heredity category. The Hawaiian students seem to have the concepts of "spontaneity" and the "presence in animals more than in man" more firmly established than the Omaha students.

In general, the trends appear to be the same in Omaha as in Hawaii. We can deduce from these results that confusion about "instinct" is as great in Omaha as in Hawaii.

ALLEN J. GOTTNEID
University of Omaha

Cellophane for One-Way Vision

To the Editor:

Here is a suggestion for those psychologists who have need of a satisfactory one-way vision screen but whose lack of finances rules out the highly satisfactory, but very expensive, mirror type. Place a sheet of cellophane between two panes of ordinary window glass and an illumination differential between the two rooms gives quite adequate one-way vision. Various colors of cellophane give different kinds of results, and the color chosen depends upon the type of illumination present and the particular requirements of the situation. A little experimentation is advisable. Black cellophane gives little color distortion but works best only when the observed room is brightly lighted. We are currently using two sheets, one blue and one amber, in a room that is only moderately well lighted. In our situation this gives some color distortion but the best vision.

DONALD L. GRUMMON
University of Chicago



FRANK A. BEACH

Professor of Psychology, Yale University

Chairman, Committee on Publications of the American Psychological Association
President, Division of Physiological and Comparative Psychology

Across the Secretary's Desk

BOARD OF DIRECTORS' LETTER TO PRESIDENT TRUMAN CONCERNING LOYALTY INVESTIGATIONS

The following statement was prepared and adopted unanimously by the Board of Directors of the American Psychological Association at its regular meeting held on March 18-20 at Ann Arbor, Michigan, and was sent to President Harry S. Truman.

"During the war, large numbers of American scientists entered government service. Many of them were psychologists. Since the war, the extent of the essential services performed by psychologists has increased greatly. In fact, the number of psychologists now required by the Federal Government far exceeds the supply available for such employment.

"The present retention and future recruitment of qualified psychologists for government service are seriously threatened by events in a few localities. Executive Order 9835 has the clearly justifiable intention of averting damage to the United States by agents or adherents of potential enemy nations. Its operation in many localities has been characterized by care and discretion, and by attention to the real needs underlying the order. In some other localities, however, the execution of the order appears to neglect the basic civil rights of Americans, and is detrimental to the morale of loyal persons in government service. In particular instances persons have been accused with only a vague statement of the charges against them. Individuals have been assumed to be disloyal until they could prove their loyalty, and have been subjected to personal distress, expense, and loss of professional esteem on charges that are as yet unsubstantiated. While the intent of the order was clearly to prevent damage, its execution, in certain localities, is in fact causing damage to government service by the loss of morale among employees, and by discouraging qualified psychologists and other scientists from accepting appointment.

"It is therefore urged that loyalty investigations be conducted in every instance in a manner that will preserve morale and maintain the attractiveness of government service for competent scientists. Loyalty boards should respect the right of every person accused to know all the charges against him,

to have a prompt and fair hearing, to confront adverse witnesses, and to summon witnesses on his own behalf. Boards should avoid the use of vague statements and rumors as accusations, and should refrain from an uncritical application of the doctrine of guilt by association. Only thus can really loyal employees be protected while charges of disloyalty are being investigated.

"We believe the undesirable features of the present situation would be alleviated by the following steps on the part of appropriate officials:

"1. A careful examination and correction when necessary of the practices being followed by the small number of local boards concerning which complaints have arisen;

"2. The issuance of statements to local loyalty boards clarifying the true intent of Executive Order 9835.

Respectfully submitted,
THE BOARD OF DIRECTORS OF THE
AMERICAN PSYCHOLOGICAL ASSOCIATION"

ADVERTISING IN APA JOURNALS

The American Psychological Association, like many another publishing house of a specialized character, reserves the right to reject advertising. Reading through the pages of *Standard Rate and Data Service*, the handbook which lists various publications, their advertising rates, their circulation, page size, and so on, one finds that sometimes the advertising must be approved by the editor and sometimes by the business manager of a journal.

In the APA, the control of advertising has for many years been the responsibility of the business manager; he is the logical person under the present arrangement, because he handles all business details, including receiving and arranging advertisements. If the editors had their offices at the central APA office, it would be possible to assign this task to them. Since they live all over the country, that is not practical; under the present time schedule for handling copy, it would take too long to send them the collected ad copy to see if they approve it.

Editors feel responsible for their entire journals, however, and I was prepared to guard the purity of the advertising pages as rigorously as they would do it for themselves, when I was given the task of in-

specting the advertising. That proved to be an easy task. In many months the opportunity to reject an advertisement for its content did not come up. It is a simple fact that in 1948, 90 per cent of the paid advertising copy was from book firms advertising psychological books (Table 1). There has therefore been no reason for wondering whether an editor would wince at the type of advertising appearing on his cover pages.

The type of advertising was respectable, but complaints from APA members were received about the quality of some of the books advertised. These members seemed to feel that an advertisement in an APA journal guaranteed a high quality in the book. Some of them, disappointed in their purchases, recommended that the APA refuse to accept advertisements of books they considered of poor quality.

TABLE 1

Advertising in APA journals in 1948

TYPE OF ADVERTISER	NUMBER OF PAID ADVERTISEMENTS	PERCENTAGE OF TOTAL
Book companies.....	130	90
Apparatus companies.....	8	5
Tests and test scoring services.....	3	2
Psychological journals.....	2	1
Travel services.....	1	1
Schools.....	1	1
Total.....	145	100

The editors were polled on this topic so that their viewpoints could be obtained. Seven of nine replied. Four subscribed to the general statement that an advertisement in an APA journal guarantees nothing about the quality of the product. "I am not at all sure," wrote one, "that we are bound to evaluate advertising material beyond making a judgment that it is not the work of charlatans." "I don't see how you can make an evaluative judgment in accepting advertising of books," wrote another. A third was even more practical: "How could you render an opinion about every book you advertise—since then you would have to read them all!"

Three editors would like to reject advertising of some types or of some firms which write rather glowing ads; but even they do not know on what grounds it could be done. One suggests having no ad of a book until a review of it had appeared in some

APA journal. One suggested inspecting the advertising and objecting to any untrue statements, such as: "First book of this type to appear in five years," when several books of that type have actually appeared. The third wrote: "It is a touchy business, considering some of the things that get printed by [even the most reputable of] companies."

I would summarize the editors' viewpoints by saying that they would prefer the books advertised in their journals to be of high quality; but they have no practical means to suggest to bring this happy state of affairs about. Parenthetically, I am sure that the firms publishing psychological books would also be glad to publish books of high quality only, since their profits would then mount.

My own viewpoint on advertising involved swinging from one extreme to the other. Originally, I thought that APA journals should not carry advertising at all, because the income received would influence the editorial content. Yet a tabulation showed that a firm which spent hundreds of dollars with us had never received a favorable review of a certain book of theirs. Evidently the book review editors did not feel bound to write favorable reviews for our advertisers.

Another change in attitude occurred when I found that the announcement of a forthcoming book was frequently of interest to many members.

In conclusion, the present policy is still that publishing an advertisement in an APA journal does not imply that the APA guarantees the quality of the products advertised. But for the aid of those who read book advertisements, here is my own translation of certain recurring publishers' phrases:

Pre-publication offer: Buy at your own risk; we want some means of estimating future sales before we decide on how many to print.

About 650 pages: The author has sent 375 pages which he says is about half the copy.

To appear in the Spring: The author has five more chapters and the Index yet to write.

To appear next month: The author is reading galley proof; pray that he gets it back on time.

Outstanding books: These are our most recent books; we hope you approve of them.

Third reprinting: We made a mistake on the probable sale of this one, and have had to spend money to get it reprinted, but this is at least a way of telling you how popular it is.

Classic text: Still selling five years after publication.

HELEN M. WOLFLE

Psychological Notes and News

James Rowland Angell, president of the Association in 1906, died on March 4, 1948 at the age of 79 years.

Hilding G. Kruse died December 30, 1948 at the age of 32 years.

Daniel B. Leary died in 1946. At the time of his death he was a member of the department of psychology at the University of Buffalo.

Frank K. Shuttleworth, on sabbatical from the College of the City of New York, was appointed research assistant in the Institute of Child Welfare, University of California, for the year 1948-1949. For the current semester he is also serving as lecturer in the department of psychology during a leave of absence by **Harold E. Jones**.

Roman Crespo Tuason of the VA Advisement and Guidance Section in the Manila Regional Office has been granted leave from March through June for the purpose of visiting VA offices and colleges in the United States.

Betty Beale, formerly with the Los Angeles County Civil Service Commission, was appointed on December 1, 1948 to the position of junior clinical psychologist with the California State Department of Mental Hygiene with headquarters at Patton State Hospital.

Eva Ruth Balken has been appointed part-time special lecturer in the department of psychology, University of North Carolina.

David H. Roberts II, formerly of Western Reserve, was last fall appointed head of the department of psychology, registrar, and director of admissions at Marlboro College, Marlboro, Vermont.

Albert S. Thompson, now associate professor of psychology and director of the University Counseling and Placement Service at Vanderbilt University, will next fall become associate professor of education in the Department of Guidance at Teachers College, Columbia.

George Horsley Smith has accepted a visiting professorship at the University of New Mexico for the summer session.

Elias Katz has been appointed chief clinical psychologist at the U. S. Naval Disciplinary Barracks, San Pedro, California.

Arthur Weider has been appointed associate professor of medical psychology at the University of Louisville School of Medicine.

Hilda F. Dunlap was recently appointed editor of the World Book Company's Division of Test Research and Service.

Lenore Chafetz Seltzer, instructor in psychology at Vassar College, has received a faculty fellowship for the first semester of 1949-50 in order to make a study of anthropological data in relation to the learning process.

Samuel Kellman has accepted a position as Psychologist III with the Adult Psychiatric Clinic, Harper Hospital, Detroit.

H. J. Eysenck, director of the department of psychology at the Institute of Psychiatry, Maudsley Hospital, London, will be a visiting professor at the University of Pennsylvania for the fall semester.

C. G. Browne of Wayne University will be a visiting professor at the University of Illinois during the 1949 summer session, teaching graduate courses in occupational information and vocational guidance.

Michigan State College announces the following staff appointments for 1948-49: James S. Karslake, formerly of Rohrer, Hibler, and Replogle, and Albert I. Rabin, formerly of Michael Reese Hospital, as associate professors; Austin Foster, from the University of Texas, as assistant professor; and Carol A. Rayhill, from the University of Detroit, as instructor.

The State College of Washington announces the following staff appointments for 1948-49: Harold B. Pepinsky, formerly of Michigan State College, as director of the Student Counseling Center; and Ija

Korner, formerly of King's County Hospital, as clinical psychologist. Dr. Pepinsky replaced Edward S. Bordin who went to the University of Michigan. Lillian Portenier of the University of Wyoming will be on the visiting faculty for Summer, 1949, teaching courses in mental testing and child psychology.

The VA Hospital, Downey, Illinois, announces the following staff appointments: Seymour G. Klebanoff, chief psychologist; Meyer Williams, director of research; and Vernon Clark, supervisor of psychotherapy. William A. Hunt, Donald B. Lindsley, and T. W. Richards of Northwestern University are consultants to Downey in conjunction with the internship training program.

The National Science Foundation Act of 1949. Bills to create a National Science Foundation have been introduced into both houses of Congress. The Senate Bill, S. 247, was passed unanimously on March 18. Public hearings on several very similar bills before the House of Representatives were held from March 31 to April 4 by the Subcommittee on Public Health, Science, and Commerce of the House Committee on Interstate and Foreign Commerce. Representative J. Percy Priest of Tennessee, author of one of the bills, was chairman of the subcommittee holding the hearings.

The Senate bill and the very similar bills before the House of Representatives meet the objections made by President Truman in his veto of a science foundation bill passed by Congress in 1947. The present bills emphasize support of fundamental research in the physical, biological, and other sciences, and provide a program of fellowships and scholarships for students in these fields. Provision is made to spread this support widely over the country as a whole. The Director of the Foundation would be appointed by the President. General policies, however, would be set by a board of 24 members chosen by the President to represent a wide variety of scientific and educational interests from all parts of the country.

Both the Senate and House versions of the bill were drawn up after a great deal of careful consideration of alternative forms of legislation. The result is a bi-partisan bill which is endorsed by many agencies in and out of the federal government which have an interest in the future of scientific progress in the country. The next step in actually achieving a National Science Foundation is to persuade enough

members of the House of Representatives that the bill should be passed. If that can be done, it looks as if this year the Foundation will become a reality.

The Adjutant General has announced Department of the Army contract agreements with the following universities:

University of Minnesota (C. G. Wrenn and W. W. Cook), *Factorial analysis of paper-and-pencil performance tests for vocational classification and counseling.*

New York University (Lyle H. Lanier), *Factor analysis of depth perception tests.*

University of North Carolina (Dorothy C. Adkins), *Factor analysis of reasoning tests.*

University of Pittsburgh (John C. Flanagan), *Biographical information blank for use in classification.*

Wayne University (Roger M. Bellows), *Significance of variability in ratings of a single rater.*

Western Reserve University (J. L. Otis), *Food service proficiency tests.*

Proposals for other contract studies in personnel research are under consideration or negotiation. In this connection, the Army definition of "personnel research" may be of interest to organizations seeking contracts. Department of the Army Special Regulations No. 70-30-1 of 24 January 1949 reads:

"(1) Identification, definition, and assessment of individual psychological characteristics for purposes of selection, classification, training and effective utilization of military personnel.

"(2) Administrative procedures and personnel management principles and practices concerning effective personnel administration and training.

"(3) Socio-occupational analysis (including job description, evaluation and classification, the development and evaluation of criteria of performance, work simplification and the modification of working conditions)."

New Associates of the APA elected at the March meeting of the Board of Directors total 996.

The Divisions of Physiological and Comparative Psychology and Theoretical-Experimental Psychology have voted to amalgamate as the **Division of Experimental Psychology**. The ballot was closed on March 9, 1949 with the following results: for amalgamation, 243; against amalgamation, 25. W. J. Brogden and H. F. Harlow, both of the University of

Wisconsin, will serve jointly as secretary-treasurer of the new division. Application blanks for membership in the new division may be obtained by writing either secretary.

Morris S. Viteles, President of the Division of Consulting Psychology, has been appointed Division Representative to replace Jack Dunlap, who has resigned.

Gripe Year has arrived, announces the Policy and Planning Board. A review of the structure and functions of the APA as a whole, together with recommendations for any changes that seem desirable, is to be made next year by the Policy and Planning Board, as directed in Article XII, Paragraph 6 of the APA By-laws. In preparation for this review, the Board earnestly solicits your personal suggestions, recommendations, and comments for the improvement of the APA.

Be as informal as you wish, but let us have your ideas, your satisfactions, your gripes about APA. What would you like changed? Or are you satisfied with the way we are organized and operate?

Write any member of the Board as briefly or in as much detail as you like. But write—and soon. The views of every APA member are welcome.

John Gray Peatman, Chairman, 1949-1950
Policy and Planning Board
3479 Broadway
New York 31, New York

The **RAND Corporation** is the name of a research organization sponsored by the National Military Establishment, Department of the Air Force. Headquarters are at Santa Monica, California. The Washington, D. C. office is located at 1029 Vermont Avenue N.W.

The objective of RAND, as set forth in its charter, is to further and promote scientific, educational, and charitable purposes, all for the public welfare and security of the United States of America. RAND's policy is to encourage publication of research findings and the fullest possible interchange of information with scientists outside of RAND. Some studies, however, will have to be classified.

During the summer of 1948 a Social Science Division was added to RAND. It includes political scientists, sociologists, and psychologists. Hans Speier is its director. The first sub-contract research

projects are now under way at the Laboratory of Social Relations at Harvard, at Yale University, and at the Museum of Natural History.

The **Roscoe B. Jackson Memorial Laboratory** is anxious to cooperate with scientists working elsewhere on psychological and social traits of the dog. As part of the program on the study of heredity and social behavior, about 35 to 40 purebred dogs are being raised annually under standard conditions. A certain number of these can be made available at the age of one year and at nominal expense, for psychological experiments. Complete records of ancestry, life history, and test results can be made available if desired, a type of information which is almost impossible to get on other animals. Inquiries should be addressed to Dr. J. P. Scott, Chairman, Division of Behavior Studies, Box 78, Hamilton Station, Bar Harbor, Maine.

Persona, the *Intercollegiate Journal of Psychology*, is resuming publication after an initial issue in 1947. *Persona* is a student publication and will print original articles by students, both graduate and undergraduate. Application for staff representatives may be obtained in the *Persona* offices. Subscriptions are sold at \$2 a year for quarterly publication. Address the Associate Editor, Miss Prudence Burchard, Psychological Laboratory, Western Reserve University, Cleveland 6, Ohio.

The **Washington State Psychological Association** will hold a meeting on the campus of Washington State College in Pullman, Saturday, May 14.

The morning session will be devoted to business and consideration of a proposed licensing bill and the afternoon will be concerned with research possibilities in mental institutions and related problems of graduate training.

Officers for the current year are: Charles R. Strother, president; F. Nowell Jones, secretary-treasurer; and David Ehrenfreund, chairman of the program committee.

The **Louisiana Psychological Association** held a meeting at Southeastern Louisiana College, Hammond, Louisiana, March 5, 1949, with 51 persons attending.

The following officers were elected for the 1949-50 term: E. Terry Prothro, president; Dorothy Seago, vice-president; Kenneth B. Hait, secretary.

New Trends in Counseling and Psychotherapy was the title of a national symposium held on February 25 and 26 at the University of Illinois. It was sponsored by the Student Counseling Bureau in cooperation with the Department of Psychology and the Psychological Clinic. Approximately 1,000 persons attended. Speakers were George D. Stoddard, president of the University of Illinois, and Joseph M. Bobbitt, Edward S. Bordin, William M. Gilbert, William L. Harris, Starke R. Hathaway, J. McV. Hunt, Richard L. Jenkins, Wendell Johnson, E. Lowell Kelly, Lawrence I. O'Kelly, Carl R. Rogers, Edward Ross, E. G. Williamson, and Dael Wolfe. The possibility of publishing the symposium is now being considered.

Criterion Methodology in Personnel Research was the title of a symposium conducted in the Pentagon, Washington, D. C., on 25 and 26 February under the auspices of the Personnel Research Section, AGO, U. S. Army. The audience was largely composed of representatives of psychological research agencies of the National Military Establishment. After speeches of welcome by Major General H. B. Lewis and Walter V. Bingham, papers on aspects of the criterion and related problems were given by Dorothy C. Adkins, D. E. Baier, H. E. Brogden, Everett Brundage, John B. Carroll, Jack W. Dunlap, Harold Edgerton, John C. Flanagan, Harold Gulliksen, Albert K. Kurtz, Charles I. Mosier, Harry J. Older, Jay L. Otis, E. A. Rundquist, E. K. Taylor, Joseph Tiffin, H. A. Toops, and R. J. Wherry.

It is planned to edit and publish the proceedings of the symposium.

The Teaching of Psychology will be the title of a five-day conference arranged by Northwestern University on August 8-12. Speakers will be Theodore Newcomb, Paul Fields, a member of the film-instruction group at Penn State, and members of the Northwestern department. In addition, sessions will be arranged by the participants. A nominal fee will be charged for support of the conference, and housing and dining facilities will be arranged on the campus, with costs charged to participants or their institutions. For further details, write to Dr. Claude E. Buxton, Department of Psychology, Northwestern University, Evanston, Illinois.

Citizenship is a requirement of almost all Federal and State Civil Service positions. The forms the

APA has been using in inquiring about the qualifications for various positions have unfortunately neglected this variable.

In times of depression, it is usually true that state positions are open only to state residents. At the present time, few states specify state residence for psychological positions. Neither are "state quotas" now an important variable in securing Federal positions as psychologists.

Placement problems are dealt with in two ways by the APA at the present time: the Notes and News listing of vacancies and the Placement System. The employer sometimes requests services of one type, sometimes the other, and sometimes both. Registrants in the Placement System should not expect the APA to send in their names for any of the Notes and News vacancies; if they are interested, they should apply themselves. Registrants are welcome to inform employers that their credentials are on file with the APA, and that we send out copies on request.

Assistants, NYU. Three assistantships in general psychology are available in the School of Commerce, Accounts, and Finance of New York University, besides those described in the January, 1949 Graduate Assistantship list for other schools at NYU. Two are full-time at \$1250 ex; one is part-time at \$750, no exemption. AB required, MA preferred. Address applications to Prof. Newman L. Hoopingarner.

Internship. Mount Zion Psychiatric Clinic, 2244 Post Street, San Francisco 15, California. Cases are primarily psychiatric. Supervisor of intern, Anne-liese F. Korner. 29 psychiatrists, 2 psychologists, 10 social workers, one psychological internship. No stipend, no maintenance. Age 21-35, either sex, must be a graduate student; no experience required. Address applications to Dr. Norman Reider.

Queens College is establishing an Educational Clinic which will open in September, 1949, under the direction of Albert J. Harris. The Clinic will carry on a variety of child guidance activities and will serve as a demonstration center for the teacher-training program. The stress will be on diagnosis and remediation of educational maladjustments and disabilities. The Clinic will be open September-June and will observe the regular college holidays and vacations.

Full-time positions are open for a senior psychologist (PhD required), for a psychologist and an assistant psychologist (MA required), and for a social worker. Part-time positions are open for a pediatrician and a psychiatrist (MD and appropriate specialization). Appointments will be made to the Department of Education at the ranks of assistant professor, instructor, lecturer, and clinical assistant, according to qualifications. The range of possible beginning salaries for fulltime positions is \$3000-\$5500. Previous experience in child guidance, school psychology, or remedial education is required. Apply to Dr. Albert J. Harris, Department of Education, Queens College, Flushing, New York.

The New York Zoological Society is planning an expanded Behavior Research Program. A full-time staff is needed consisting of a program director (\$6,500), two research associates (\$4,500), a secretary-research assistant and an animal custodian. The research program will be directed toward the study of a wide range of behavior both in the Bronx Park and in the natural environments of animals. For additional information write to Dr. C. R. Carpenter, Research Coordinator, New York Zoological Society, State College, Pennsylvania.

Psychological examiners, who can qualify under Illinois law, are needed as soon as possible by the Office of Public Instruction in Illinois. Requirements are at least an MA in psychology or educational psychology, with a year of clinical practice in the individual examination of children of school age; this clinical practice must have been supervised. Apply to Dr. Ray Graham, Director of Education of Exceptional Children, Office of the Superintendent of Public Instruction, Springfield, Illinois.

School psychologist and supervisor of school psychologists. The Board of Examiners of the Board of Education of New York announces that it will conduct examinations early in the fall for these positions: School psychologist, \$3,516 to \$5,664 (maximum attainable after 12 years); supervisor of school psychologists, \$6,000. Salary credit is granted for comparable service in other school systems and agencies. Correspondence with respect to these examinations is invited. Write to the Board of Examiners of the Board of Education of New York, Attention: Mr. Joseph Jablonower, 110 Livingston Street, Brooklyn 2, N. Y.

Clinical psychologists. The Army Medical Service Corps still has a number of vacancies in clinical psychology in the grades of 2nd and 1st lieutenants under the provisions of Department of Army Circular 210 dated July 14, 1948. Write to the Office of the Surgeon General, Technical Information Office, Washington 25, D. C.

Clinical psychologist, as soon as possible, man or woman, to assume half-time duties in child guidance clinic in Jacksonville, Florida, at a salary of \$2500 per year. Other work in the community may be available for a competent applicant. Address applications to Jewish Welfare Society, 212½ West Forsyth Street, Jacksonville 2, Fla.

Clinical psychologist in public school child guidance service, female, MA and 2 years of acceptable experience in child guidance clinic or school psychological service. Regular salary schedule with yearly increments; minimum \$2800 to \$3400, dependent on experience, maximum \$5800; 5-day week, school vacations and holidays, pension. Apply to Bruce B. Robinson, M.D., Director of the Department of Child Guidance, 31 Green Street, Newark 2, N. J.

Clinical psychologist, PhD. preferred, either sex; salary dependent upon training and experience. Work would include clinical psychology in reference to in-patients and out-patients plus some training of students in psychology and some teaching to medical students.

Clinical psychologist for a new Children's Psychiatric Unit now in process of formation. Some training or interest in children is essential and Ph.D. is preferred. Either sex may apply and salary will depend upon training and experience. For additional information about these two positions write to Dr. C. H. Hardin Branch, Department of Psychiatry, University of Utah, Salt Lake City, Utah.

Clinical psychologist for State of Arizona, director of new division, title Supervisor of Mental Hygiene; minimum requirements are a PhD and two years of successful experience, one of which must be administrative. Salary \$475-\$575 per month. Veteran's preference given. For application forms write to Zilpha Fuller, Supervisor, Merit System Council, 39 West Adams St., Phoenix, Arizona.

Senior clinical psychologist for State of California, U. S. citizenship, MA in clinical, 2 years' experience; to work at the Preston School of Industry, a training school for juvenile delinquents. New furnished homes are sometimes available for the staff, at \$30.00 for a two-bedroom house. Salary range, \$376-\$458 per month. Apply to R. V. Chandler, Superintendent, Preston School of Industry, Waterman, Calif.

Clinical psychologist, to head the psychological services of the Psychiatric Department of the University of Nebraska College of Medicine and to supervise the training of clinical interns. Salary, \$4000 to \$4500. Apply to Dr. Robert S. Wigton, 1436 Medical Arts Building, Omaha 2, Nebraska.

Clinical psychologist, June 15 to July 15, PhD, male; 28-35; minimum experience, 4 years, at least one year with neurotic and psychotic patients and 2 years under qualified psychological supervision. Some training and experience in projective techniques preferred. Starting salary, \$4200 to \$4800. Send resumé of training and experience to Dr. Edward M. Westburgh, Chief of the Psychological Service, Institute of the Pennsylvania Hospital, 111 N. 49th Street, Philadelphia 39, Pa.

Industrial psychologists, as soon as possible; MA desirable; to develop and administer personnel research programs. Apply to Dr. John H. Rapparlie, The United States Rubber Company, Tire Division, 6600 East Jefferson Avenue, Detroit 32, Michigan.

Instructor, beginning September, 1949, man, MA minimum; to teach general and psychology of personality. Salary, \$2800-\$3100 (12 hours teaching,

9 months). Apply to Dr. Henry C. Smith, Dept. of Psych., Hamilton College, Clinton, N. Y.

Associate professor, for 1949-1950, man, PhD, specializing in the fields of comparative and genetic psychology. Maximum salary, \$4000. Apply to Dr. Charles C. Josey, Dept. of Psych., Butler University, Indianapolis, Indiana.

Social psychologist, male, PhD, to teach in the general area of social psychology, personality, personality dynamics. Assistant professorship, salary approximately \$4100. Must have research interests. Write to Dr. M. C. Langhorne, Chairman, Dept. of Psych., Box 2, Emory University, Georgia.

Assistant or associate professor, beginning September, man, PhD, age 30 or over, teaching specialty not prescribed. Salary about \$4,000 for 9 months. Apply to Dr. Thomas E. Coffin, Dept. of Psych., Hofstra College, Hempstead, New York.

Assistant or associate professor, beginning September, woman preferred, either sex considered; 25-35, PhD, or several years of graduate work and several years' experience; to teach general, tests, and child, for 15 hours per week. Salary, \$3200-\$3600 for 9 months. Apply to Dr. W. W. Rogers, Dept. of Psych., Winthrop College, Rock Hill, S. C.

Instructor, beginning September, 1949, to teach child psychology; knowledge of counseling and familiarity with child research desired. Sex not specified. Small classes and tutorials. Eight months teaching per year. Salary determined by education and experience. Apply to President Edward C. Fuller, Bard College, Annandale-on-Hudson, N. Y.

Convention Calendar

AMERICAN PSYCHOLOGICAL ASSOCIATION

September 5-10, 1949; Denver, Colorado

For information write to:

Dr. Dael Wolfe, American Psychological Association
1515 Massachusetts Avenue, N. W., Washington 5,
D. C.

MIDWESTERN PSYCHOLOGICAL ASSOCIATION

April 29-30, 1949; Drake Hotel, Chicago, Illinois

For information write to:

Dr. Claude E. Buxton, Department of Psychology
Northwestern University, Evanston, Illinois

WESTERN PSYCHOLOGICAL ASSOCIATION

June 24-25, 1949; Eugene, Oregon

For information write to:

Dr. M. Bruce Fisher, Secretary
Fresno State College,
Fresno 4, California

COUNCIL OF GUIDANCE AND PERSONNEL ASSOCIATIONS

April 18-21, 1949; Stevens Hotel, Chicago

For information write to:

Dr. Irwin A. Berg, Office of the Dean
Northwestern University, The University College
710 Lake Shore Drive, Chicago 11, Illinois

ROCKY MOUNTAIN BRANCH OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

May 13-14, 1949; University of Wyoming, Laramie,
Wyoming

For information write to:

Dr. Lawrence S. Rogers, Executive Secretary
Rocky Mountain Branch, APA
1046 Madison Street
Denver 6, Colorado

PENNSYLVANIA PSYCHOLOGICAL ASSOCIATION

May 7, 1949; Penn-Harris Hotel, Harrisburg, Pa.

For information write to:

Dr. Esther Katz Rosen, Secretary
239 W. Allen Lane
Philadelphia 19, Pa.

CANADIAN PSYCHOLOGICAL ASSOCIATION

May 26-28, 1949; Mount Royal Hotel, Montreal

For information write to:

Dr. Gordon H. Turner, Secretary
Canadian Psychological Association
100 St. George Street,
Toronto, Canada

AMERICAN ASSOCIATION ON MENTAL DEFICIENCY

April 26-30, 1949; Hotel Roosevelt, New Orleans,
Louisiana.

For information write to:

Dr. Loyd W. Rowland, Louisiana Society for Men-
tal Health
829 Hibernia Building, New Orleans, Louisiana.

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